2009 Facilities Engineering & Real Property Symposium
FPMD Workshop – May 13, 2009

Steve Rider, Gene Pinali and John Ritter

Facility Project Management Database - FPMD

- FPMD Workshop Agenda:
  - Background – What is the FPMD?
  - FPMD Roles
  - FPMD Capabilities
    - Project Management
    - Line Management
  - Planning Module
  - 1509 Creation
  - Steering Committee
    - Recent Changes
    - Planned Enhancements
  - FPMD's Future
  - Live Demonstration
  - Questions / Suggestions

Facility Project Management Database - FPMD

- The FPMD system is a tool developed by NASA Facilities Project Managers tailored for use on the NASA Construction of Facilities (CoF) Program. It can also be used for locally funded projects.

- The Facility Project Management Database (FPMD) is a web-based application designed to assist the Facility Project Manager to track and manage their project's costs and schedule, upload and store project documents, create lessons learned, track construction documentation such as submittals and to communicate project status and issues.

- As a management tool, the FPMD has the ability to sort and categorize various projects, track cost and schedule growth, help to analyze staff workload assignments and communicate issues.

- Each Center's project data is viewable only by that Center and Headquarters - not by any other Center.

FPMD - Roles

- Roles:
  - Facility Project Manager (FPM)
    - Data entry, updating and reporting for their assigned projects
  - FPMD Local Administrator
    - Same as FPM and can also add & edit projects, make assignments, add contractors and subcontractors, create global milestones
  - Project Engineer
    - Read only access to only their assigned project's data
  - Construction Manager/Quality Assurance
    - Data entry, updating and reporting for their assigned projects
  - Read Only Access
    - Upper management access, limited access, no data input
  - CoF Program Manager
    - Create & Store "Planned" projects, create 1509s, create Capital Facilities Investment Plan and Unfunded Demolition data call submissions

FPMD – Project Data

PROJECT DATA

- Have all pertinent active and completed project data at your fingertips such as project title, scope, justification, CoF or Locally funded, project team members, design and construction contractors, current project phase, fiscal year, minor or discrete, demolition, customer, project manager, building number, etc.
- Future Projects created for planning purposes can be converted to active projects. This allows for data and documents used in the planning phase to be archived for the life of the project from the earliest concept through initial planning, requirements generation and tracking, design, acquisition, construction, activation and completion.
- Project reports in pdf format can be generated and sent to project stakeholders or stored in the FPMD as a project record.

FPMD - Funds Management

FUNDS MANAGEMENT

Project Financial Tracking:

- Project Current Cost Estimate (CCE) – which includes all project costs are tracked on a customized electronic CCE worksheet. All project costs can be tracked here, including contingency, escalation, SIES expenses in addition to construction contract award and changes.
- Approved Facility Project Cost Estimate (AFPCE) – The project authority (budget) is captured on the CCE worksheet and also on the project financial data page.
- SAP Data Storage (Funds Committed, Obligated, Costed & Disbursed – note: manually entered)
- WBS No. tracking/storage
- Construction Progress Payments Tracking (to your construction contractor)
- Automatically calculates construction contract cost growth based on initial award vs. current contract obligations.

FPMD – Schedule & Document Management

SCHEDULE MANAGEMENT

Project Schedule Tracking:

- Project milestone tracking through usual project phases (Concept, Requirements, Design, Acquisition, Construction, Activation & Close-out).
- Accommodates Custom milestone creation & tracking in all phases for all projects or for individual projects
- Headquarters would like to see planned & actual design/construction award dates; % complete for design/ construction & planned design/construction completion dates

DOCUMENT MANAGEMENT

Project Document Creation, Storage and Retrieval:

- Documents stored in folders based on project phase and also into “customizable” folders.
- Headquarters would like to see the following documents stored in the FPMD: 1509, 1510, Project Management Plan, Studies, PERs & Life Cycle Cost Analysis (Econpack)

FPMD - Communications

COMMUNICATIONS MANAGEMENT

- Project Issues Communication, with green, yellow and red severity ratings (currently based on Metrics of Safety, Cost, Schedule, Quality, Coordination and Customer Satisfaction).
- Project Status Communication such as phase % complete and upcoming critical milestones
- Create Project Issue Communication Memos (ICM's)
- Create Project Lessons Learned w/ its own database
- Project Submittals Tracking and Status
  - Provides a printable submittals log
- Project Request For Information (RFI) Creation, Tracking and Status
  - Provides a printable RFI log

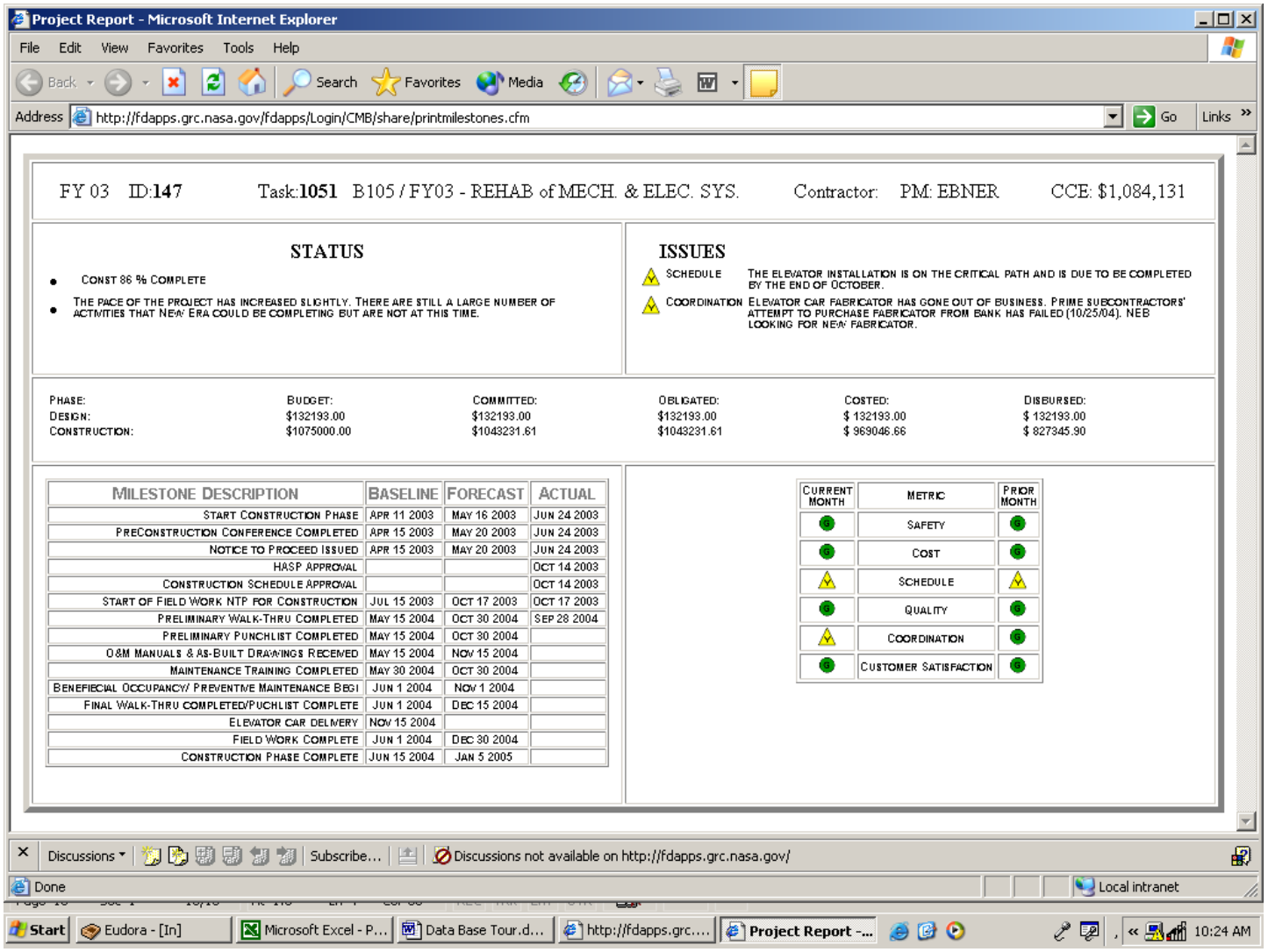
Facility Project Management Database

Project Manager / Design Team Uses

- Manage Workload (Team Member) Assignments
  - List of various team members assigned to each project including customer.
  - Ability to email the entire (or select members) of the design team
  - Established baseline milestones have been created for each project phase, essentially outlining the various basic steps required to be completed by the PM for typical CoF projects.

- Project Report Generation
  - Conveys project financial, schedule and issue status to Management

Facility Project Management Database



This is an example of a typical PM Report that a Project Manager can take into a meeting with management and contains project status, issues, current phase milestones, CCE, issues month to month comparison and SAP data.

Facility Project Management Database

Facilities Division Management Uses

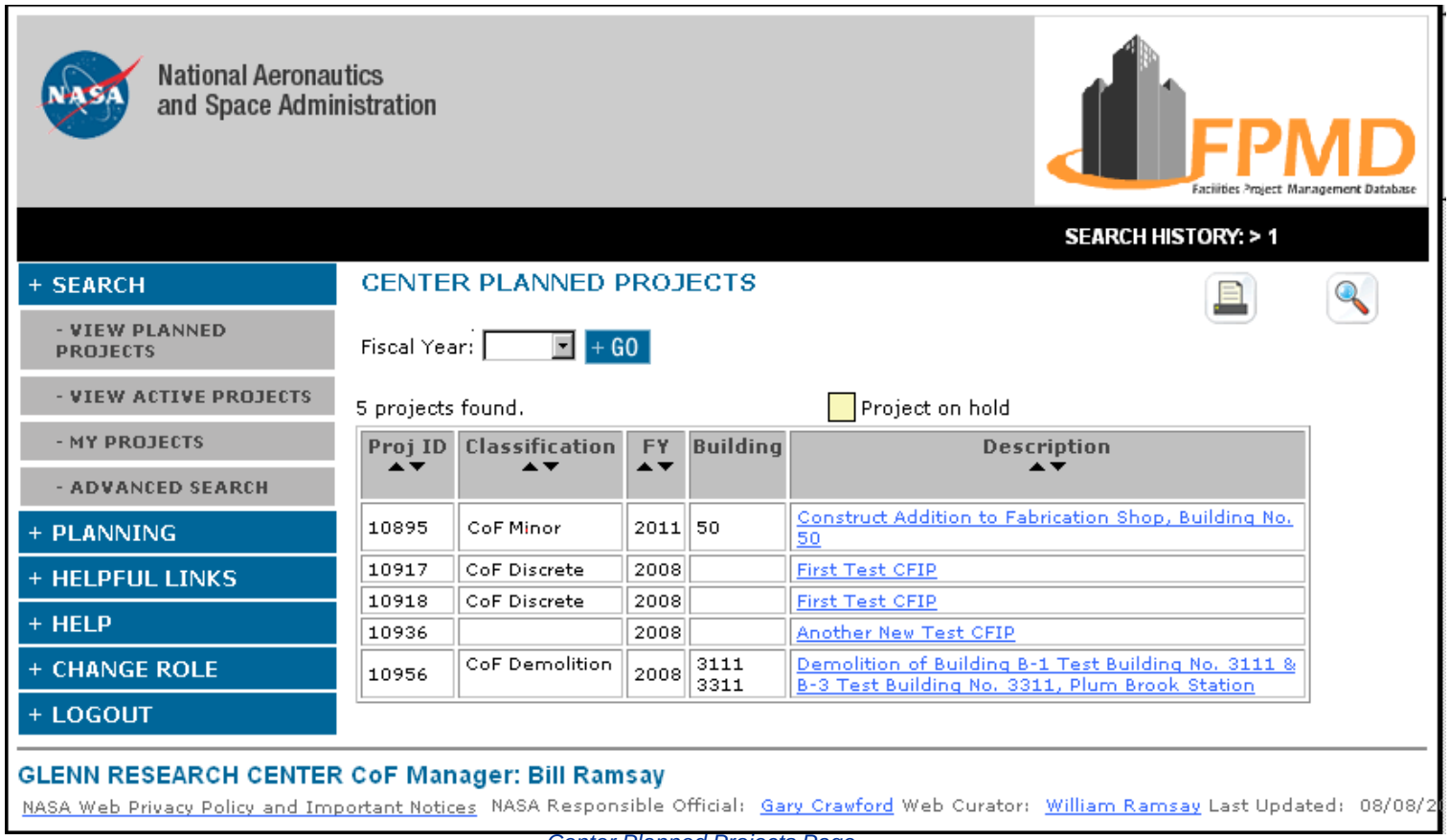
- Printable listings of projects based on a variety of sorts such as:
  - Track and print personnel assignments such as Project Manager, Construction Manager, QAT, and Engineering support roles
  - Projects by phase such as all projects currently in construction including percent complete for that phase.
  - Project Funding type (CoF, Local, or other funds)
  - Project Category (CoF Minor & Discrete, Locally Funded, etc)
  - Building Number
  - Fiscal year
  - Construction Contractor
  - Active, Completed, Cancelled, On-Hold status
  - Multiple combinations of any or all the above sorts
- Current active design and construction contractor listing with printable report.
- Planning Module used for CoF PPBES Data Call

Facility Project Management Database

Planning Module

FPMD CoF Planning Module

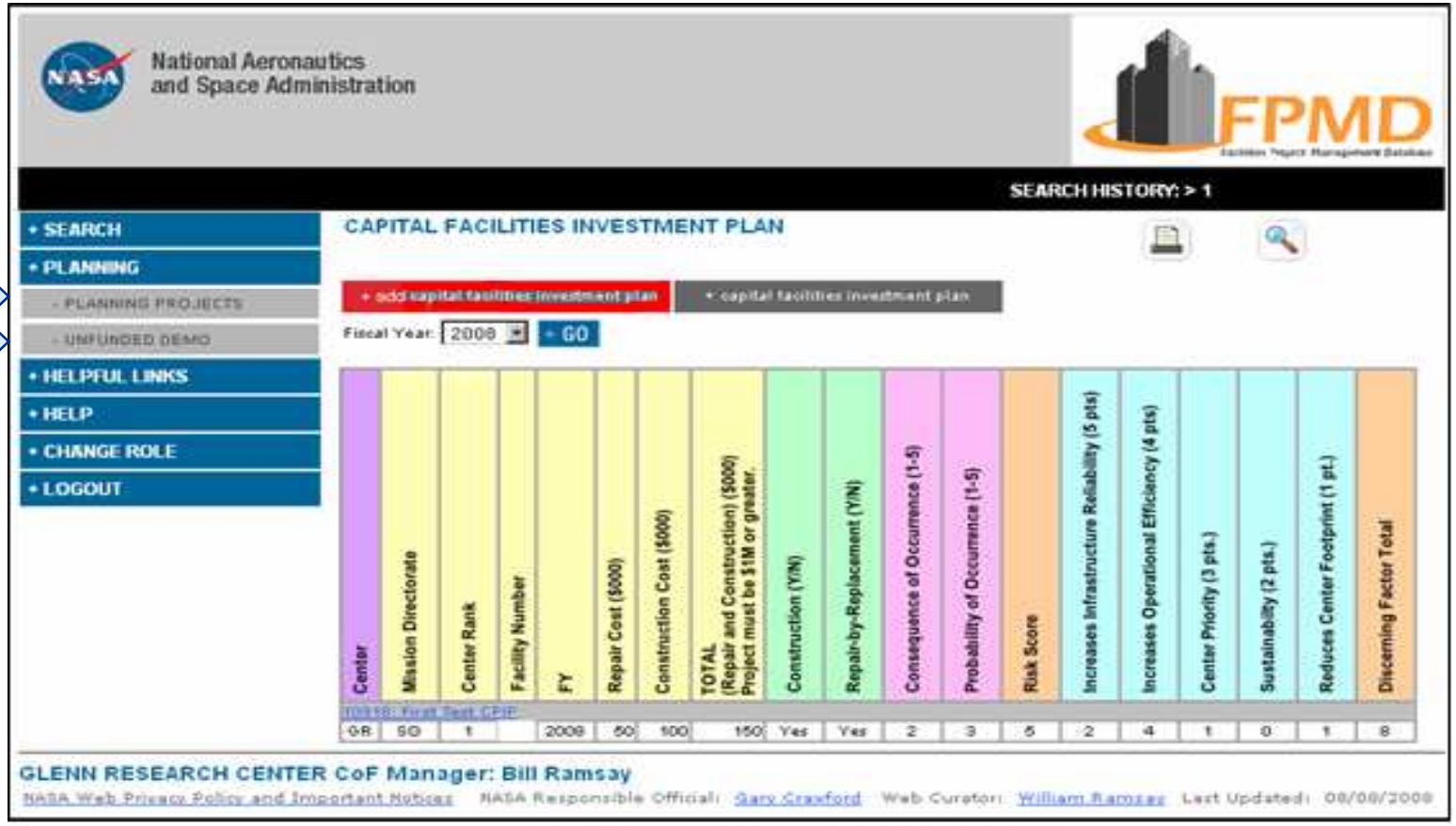
After you login (CoF Program Manager role) you will see the *Center Planned Projects Page*. Click the "Planning" button on the left menu to add or edit Capital Facility Investment Plan (CFIP) projects or Unfunded Demolition projects.



Center Planned Projects Page

FPMD CoF Planning Module

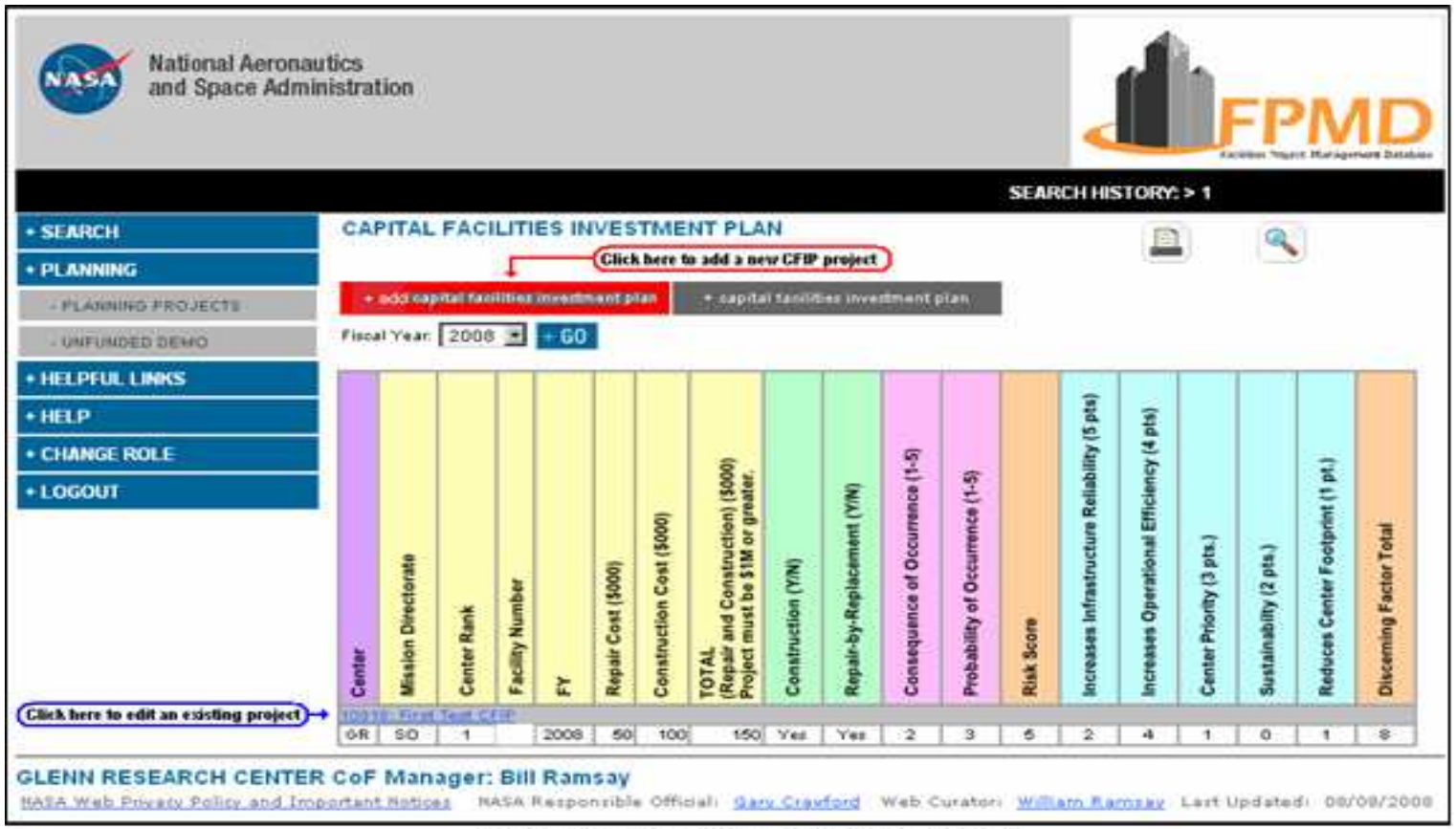
The *Planning Module's Default Home Page* is the Capital Facilities Investment Plan Page. While in the Planning Module, use the left side menu to select "Planning Projects" for CFIP projects, or "Unfunded Demo" for demolition projects.



Planning Module Default Home Page

FPMD CoF Planning Module

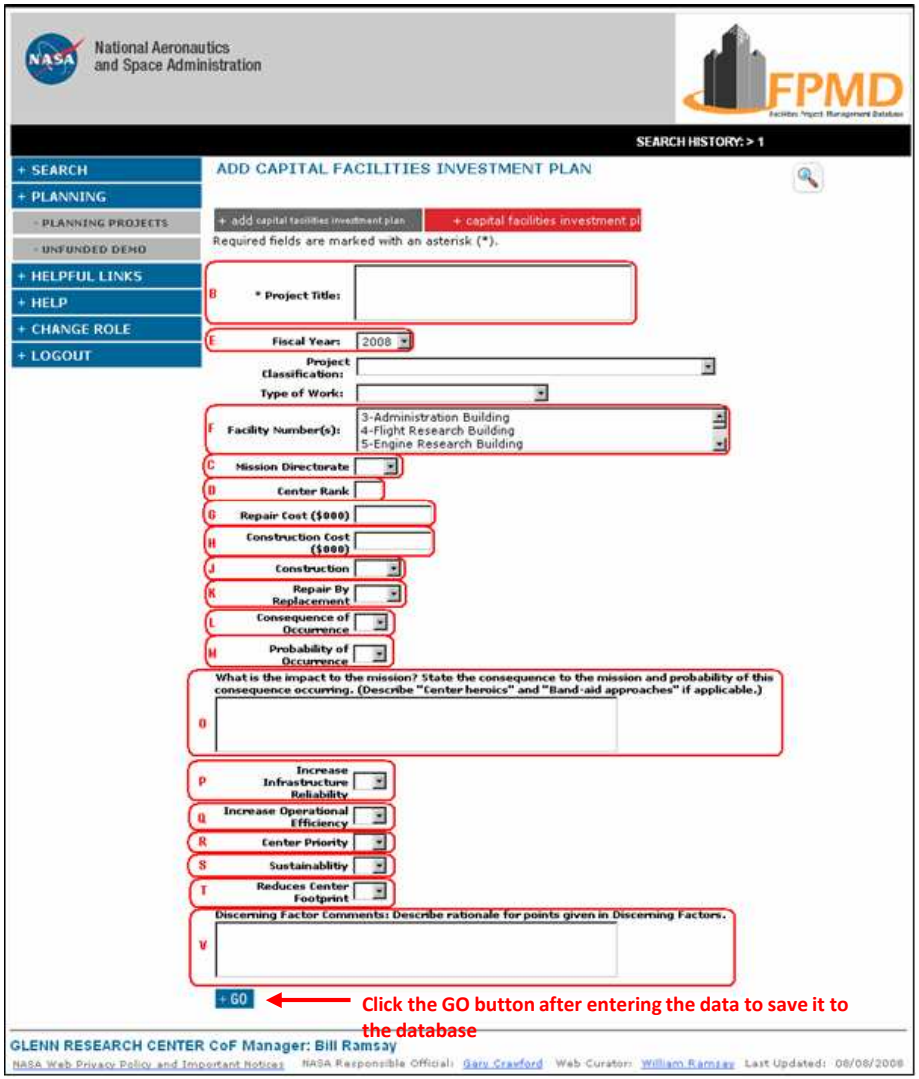
After clicking on Planning you will be shown the *Capital Facilities Investment Plan Page*, which lists projects already entered. To enter a new project, click the red "add capital facility investment plan" button above the list. To edit an existing project, click the project title link in the list.



Capital Facilities Investment Plan Page

FPMD CoF Planning Module

After clicking the red "add capital facility investment plan" button or the project title of an existing project ,you will see the *CFIP Data Entry Screen*. This screen includes all of the columns from the CFIP spreadsheet used in previous years except for a few calculated columns. In the figure to the right, the data entry field designation letter corresponds with the information on the next slide (i.e., "E" for "Fiscal Year"). The meaning of each data entry field follows. Data calculated or auto-filled by FPMD are marked with an asterisk. **IMPORTANT!** ***After entering the data, be sure to click the blue "GO" button.***



CFIP Data Entry Screen

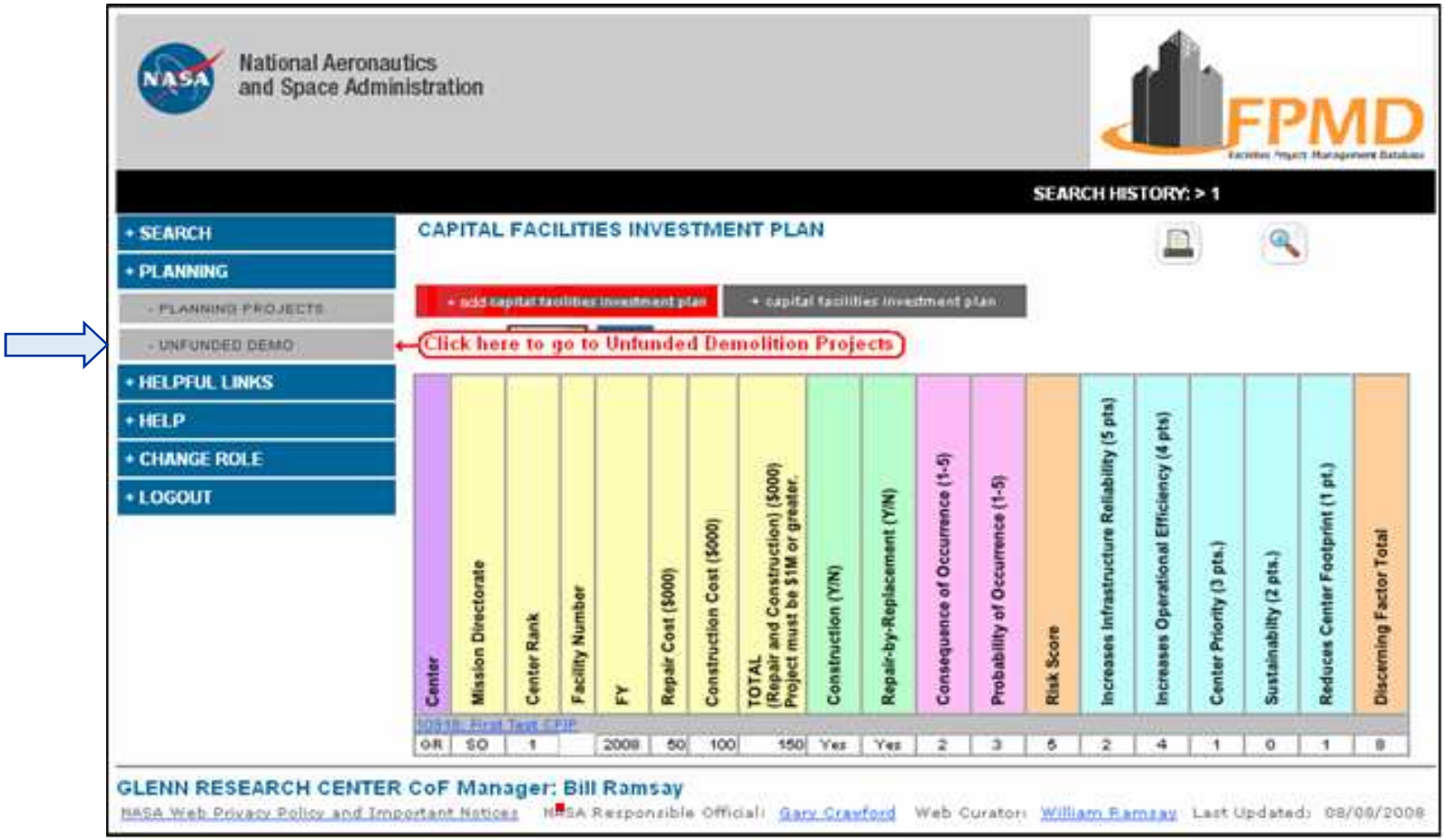
FPMD CoF Planning Module

Capital Facilities Investment Plan Projects - Data Entry Fields

A. Center name (based on the person logged in)*
B. Project name
C. Mission Directorate, if project is program direct
D. Center ranking for the Project
E. Fiscal year (FY) in which funding for the project is requested
F. Facility number as designated in the RPI
G. Repair costs estimates in $K (thousand)
H. Construction (New or Repair-by-Replacement) costs estimates in $K based
I. Total costs estimates in $K (calculated from Repair and Construction cost estimates)*
J. Project is Construction (Yes or No)
K. Project is Repair-by-Replacement (Yes or No)
L. Enter the consequence of occurrence derived from the Risk Management Table
M. Enter the probability of occurrence derived from the Risk Management Table.
N. Risk score (calculated from consequence of occurrence and probability of occurrence)*
O. Enter the impact to the mission (not just the impact to the facility project)
P. Enter points for Increases Infrastructure Reliability
Q. Enter points for Increases Operational Efficiency
R. Enter points for Center Priority
S. Enter points for Sustainability
T. Enter points for Reduces Center Footprint
U. Enter substantiating statements for points given in categorizes of the Discerning Factors in column V *
V. Discerning factor comments

FPMD CoF Planning Module

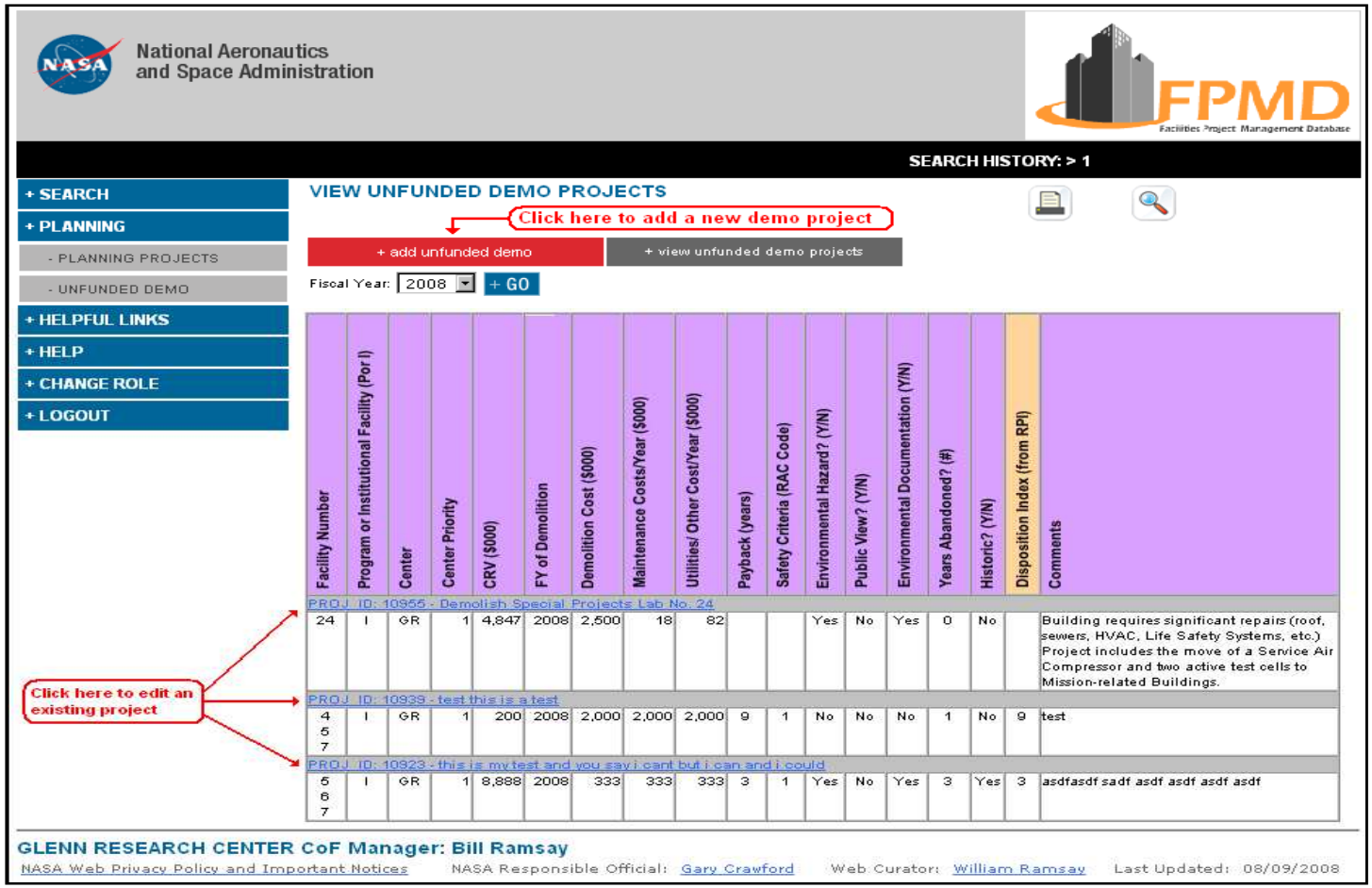
From *any page in the Planning Module* you can go to Unfunded Demolition Projects by clicking the "Unfunded Demo" menu item on the left of the screen.



Any page in the Planning Module

FPMD CoF Planning Module

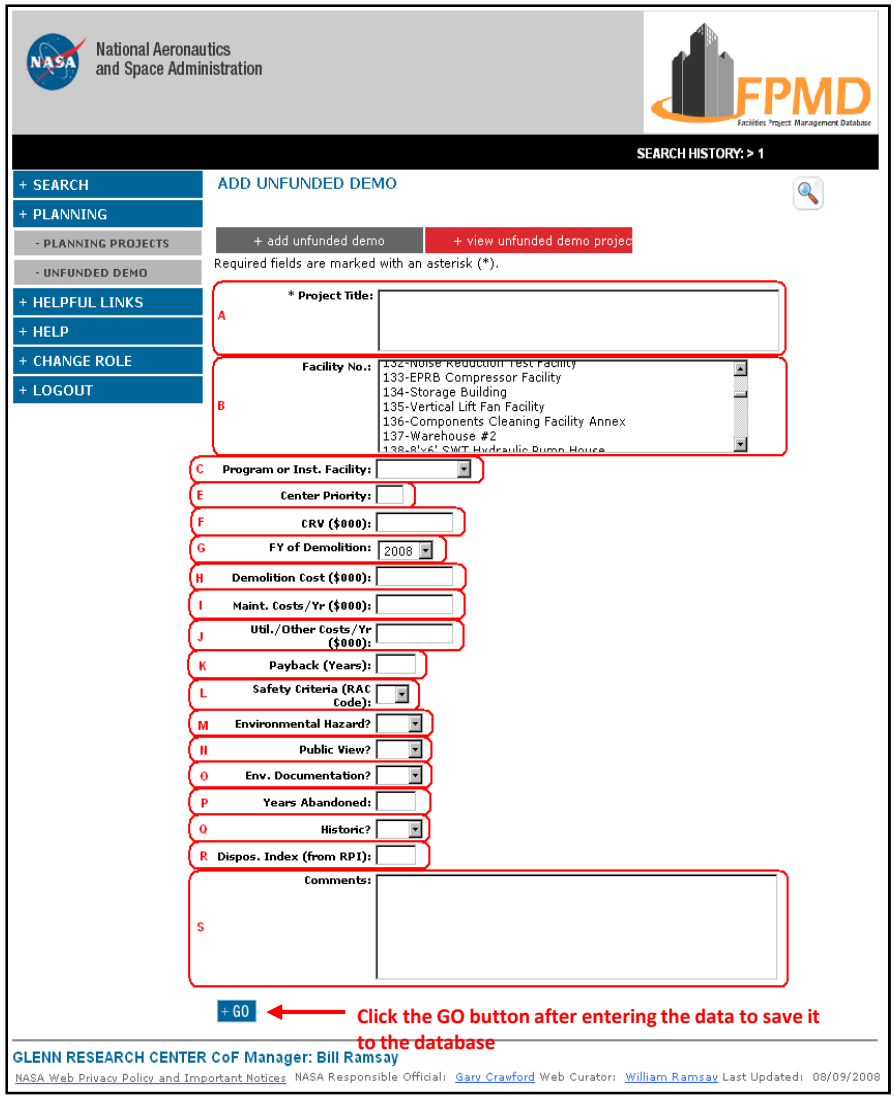
After clicking on "Unfunded Demo" in the menu you will see the *Unfunded Demolition Projects Page*, listing planned projects already entered. To enter a new planned project, click the red "add unfunded demo" button above the list. To edit an existing project click the project title link in the list.



Unfunded Demolition Projects Page

FPMD CoF Planning Module

After clicking the red "add unfunded demo" button or the project title of an existing project you will see the *Unfunded Demo Data Entry Screen*. This screen includes all of the columns from the Unfunded Demo spreadsheet used in previous years except for a few calculated columns. In the figure to the right, the data entry field designation letter corresponds with the information on the next slide (i.e., "F" for "CRV"). The meaning of each data entry field follows. Data calculated or auto-filled by FPMD are marked with an asterisk. **IMPORTANT!** ***After entering the data, be sure to click the blue "GO" button.***



Unfunded Demo Data Entry Screen

FPMD CoF Planning Module

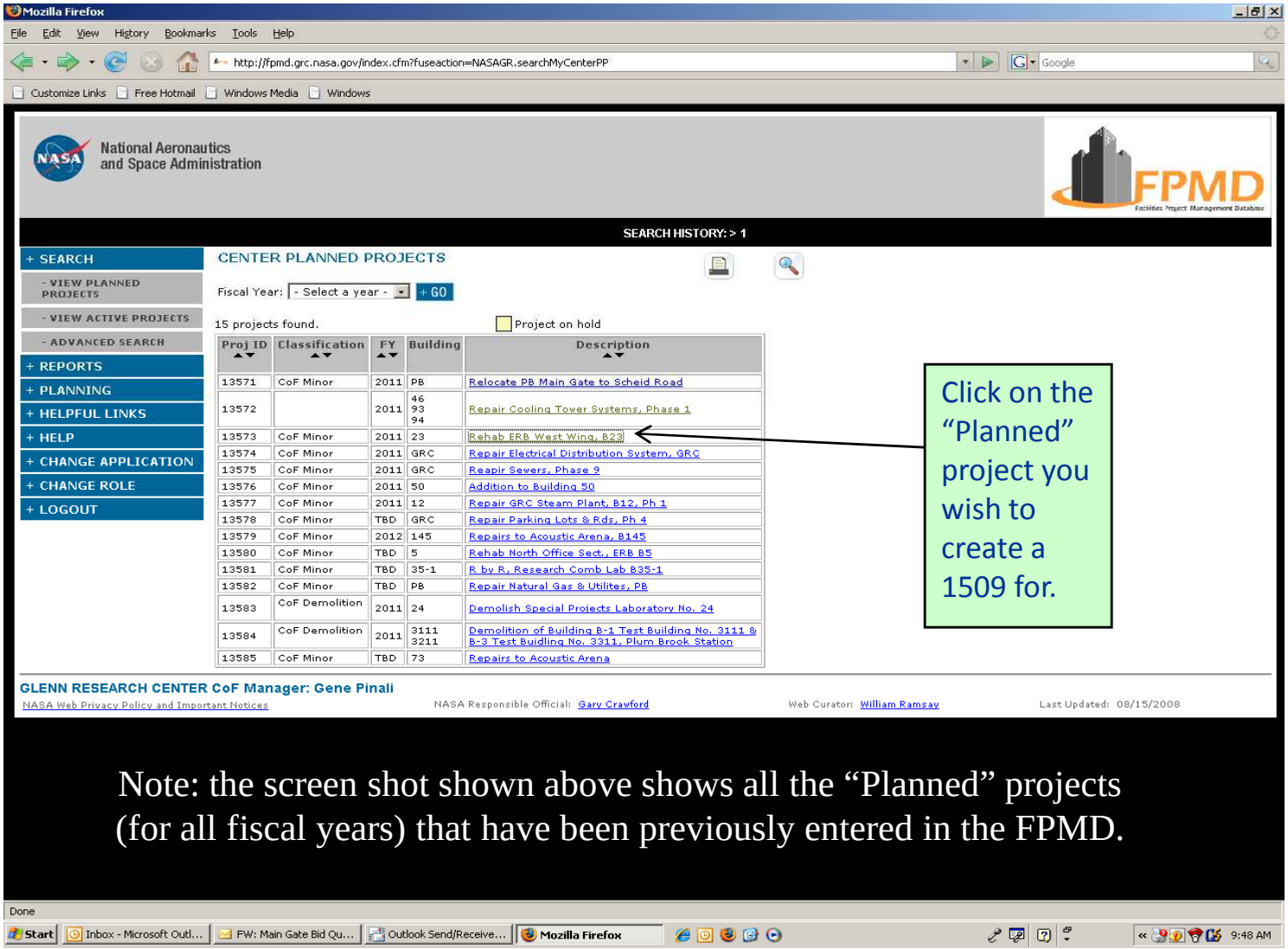
Unfunded Demolition Projects – Data Entry Fields

A. Project name
B. Facility number
C. Program or Institutional Facility
D. Center name *
E. Center priority
F. CRV
G. FY of demolition
H. Demolition Cost, $K
I. Maintenance Cost/Year, $K
J. Utilities Cost/Year, $K
K. Payback
L. Safety Criteria (RAC Code) if applicable
M. Environmental Hazard. (Yes or No)
N. Is facility or structure an eyesore in public view
O. Has environmental documentation been done to establish whether there is any environmental problem (Yes or No)
P. If abandoned facility/structure, how many years it has been abandoned
Q. Is this a historic structure, historic site, or contain historic artifacts (Yes or No)
R. Composite Disposition Score
S. Enter the rationale for each category of points given in the discerning factors

Facility Project Management Database

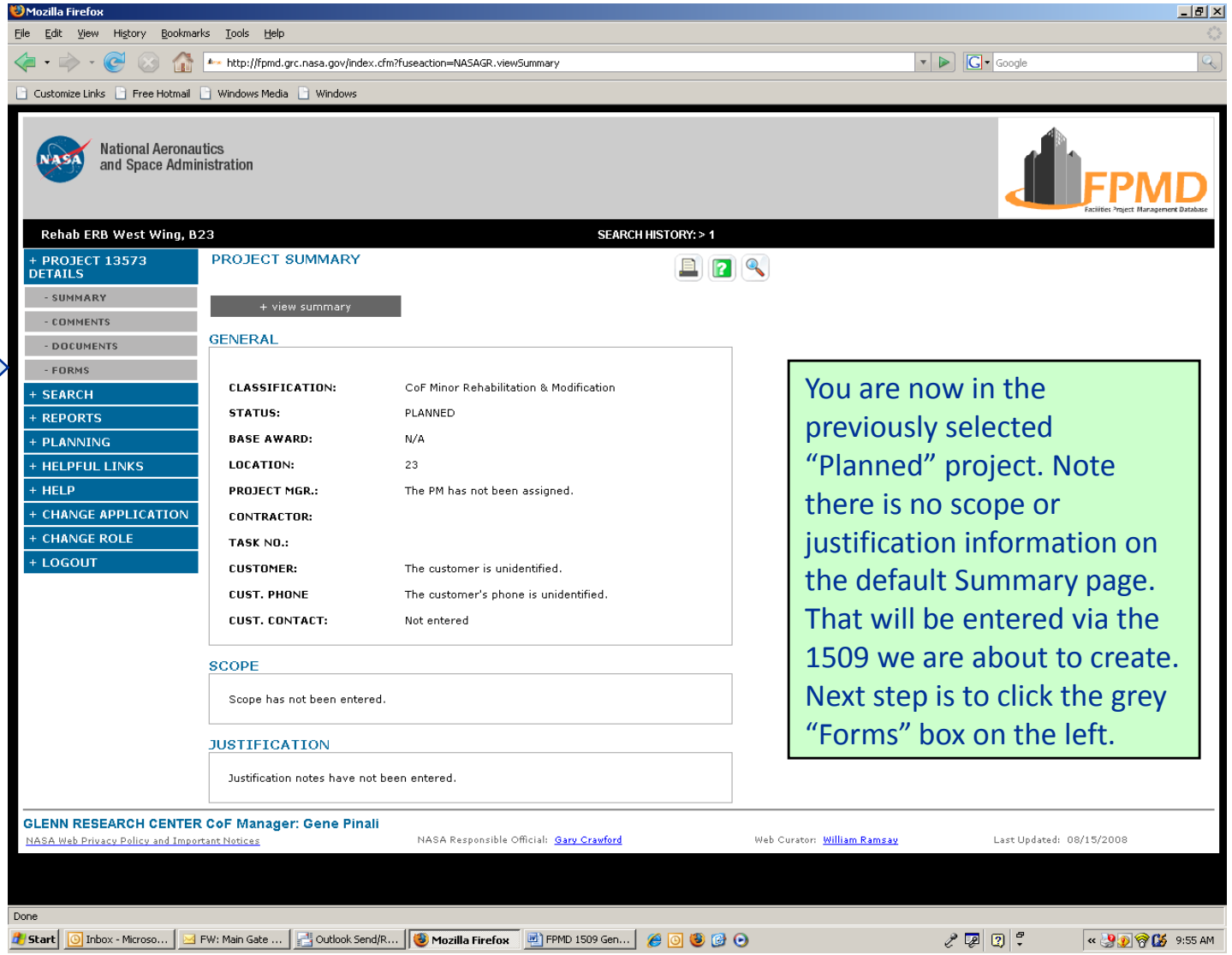
1509 Creation

FPMD CoF Planning Module - 1509 Creation



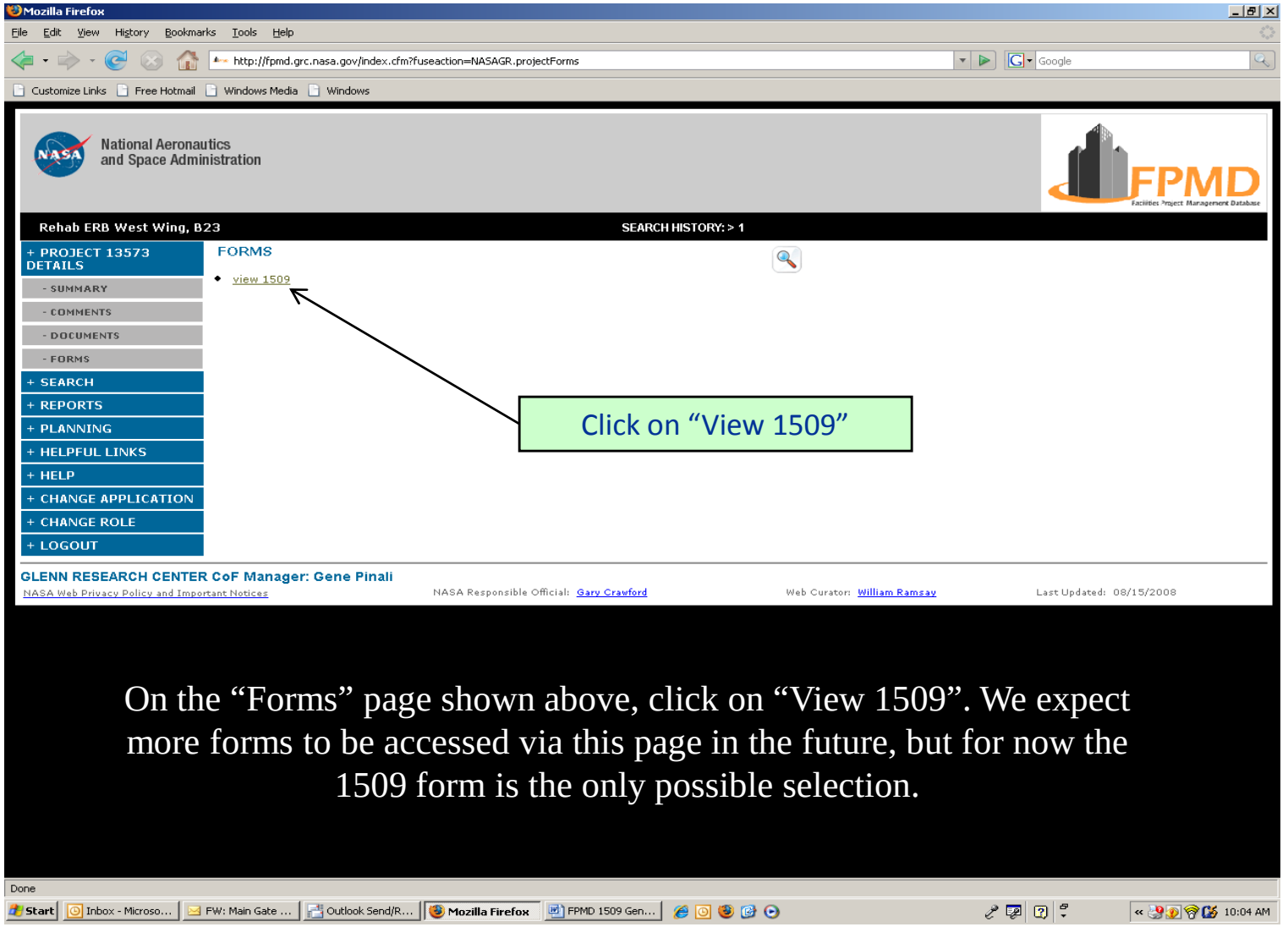
Note: the screen shot shown above shows all the "Planned" projects (for all fiscal years) that have been previously entered in the FPMD.

FPMD CoF Planning Module - 1509 Creation



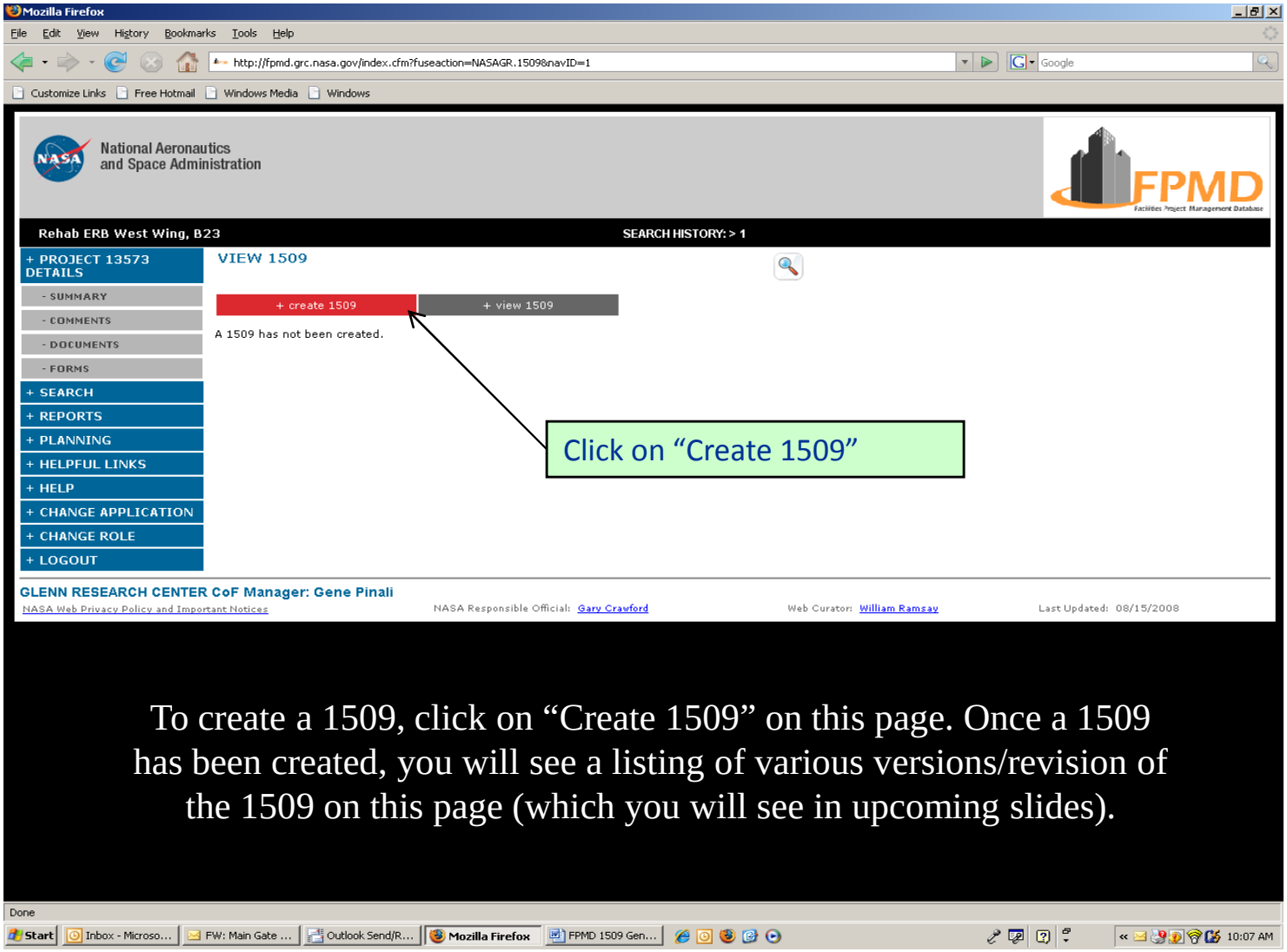
You are now in the previously selected "Planned" project. Note there is no scope or justification information on the default Summary page. That will be entered via the 1509 we are about to create. Next step is to click the grey "Forms" box on the left.

FPMD CoF Planning Module - 1509 Creation



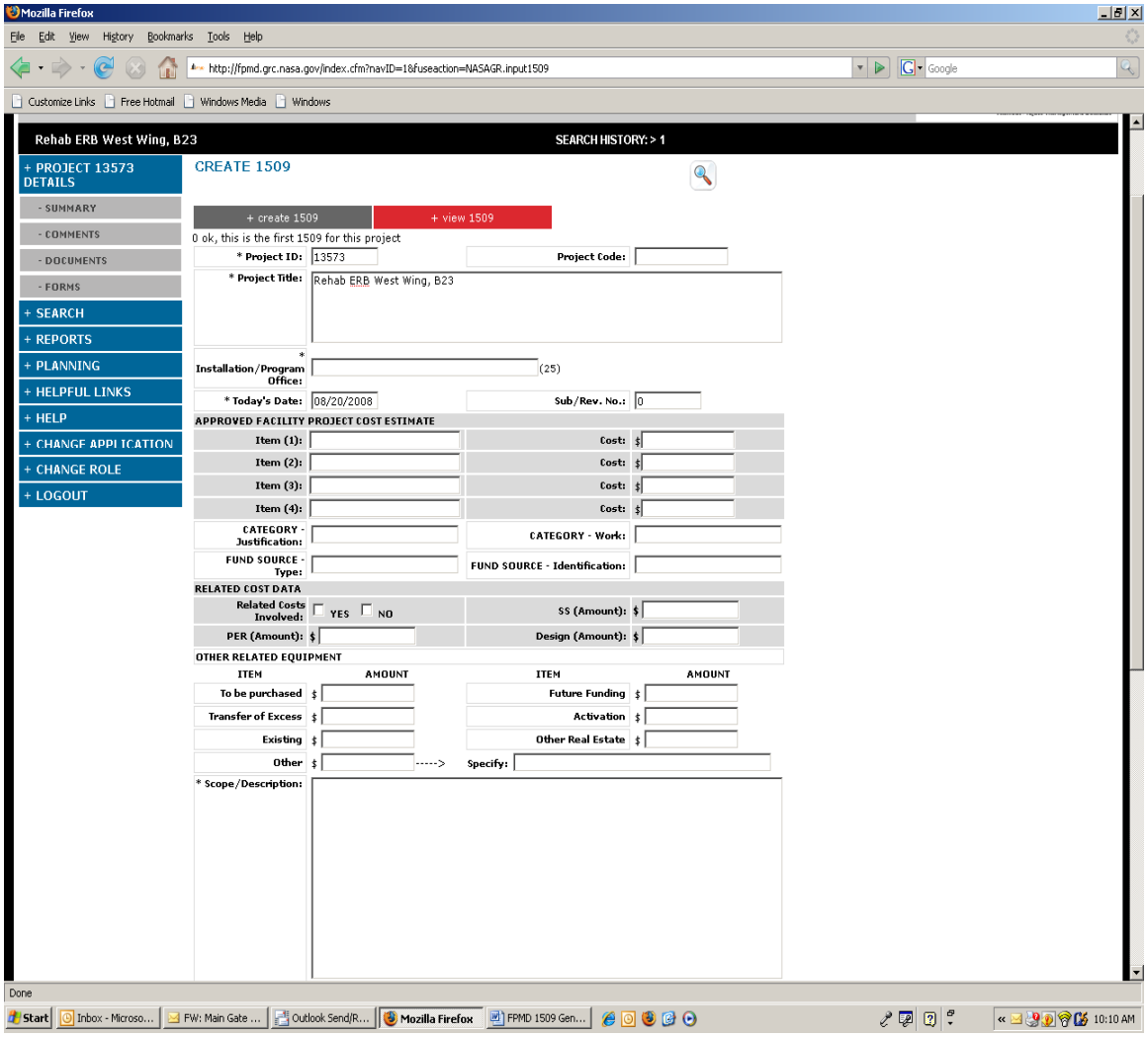
On the "Forms" page shown above, click on "View 1509". We expect more forms to be accessed via this page in the future, but for now the 1509 form is the only possible selection.

FPMD CoF Planning Module - 1509 Creation



To create a 1509, click on "Create 1509" on this page. Once a 1509 has been created, you will see a listing of various versions/revision of the 1509 on this page (which you will see in upcoming slides).

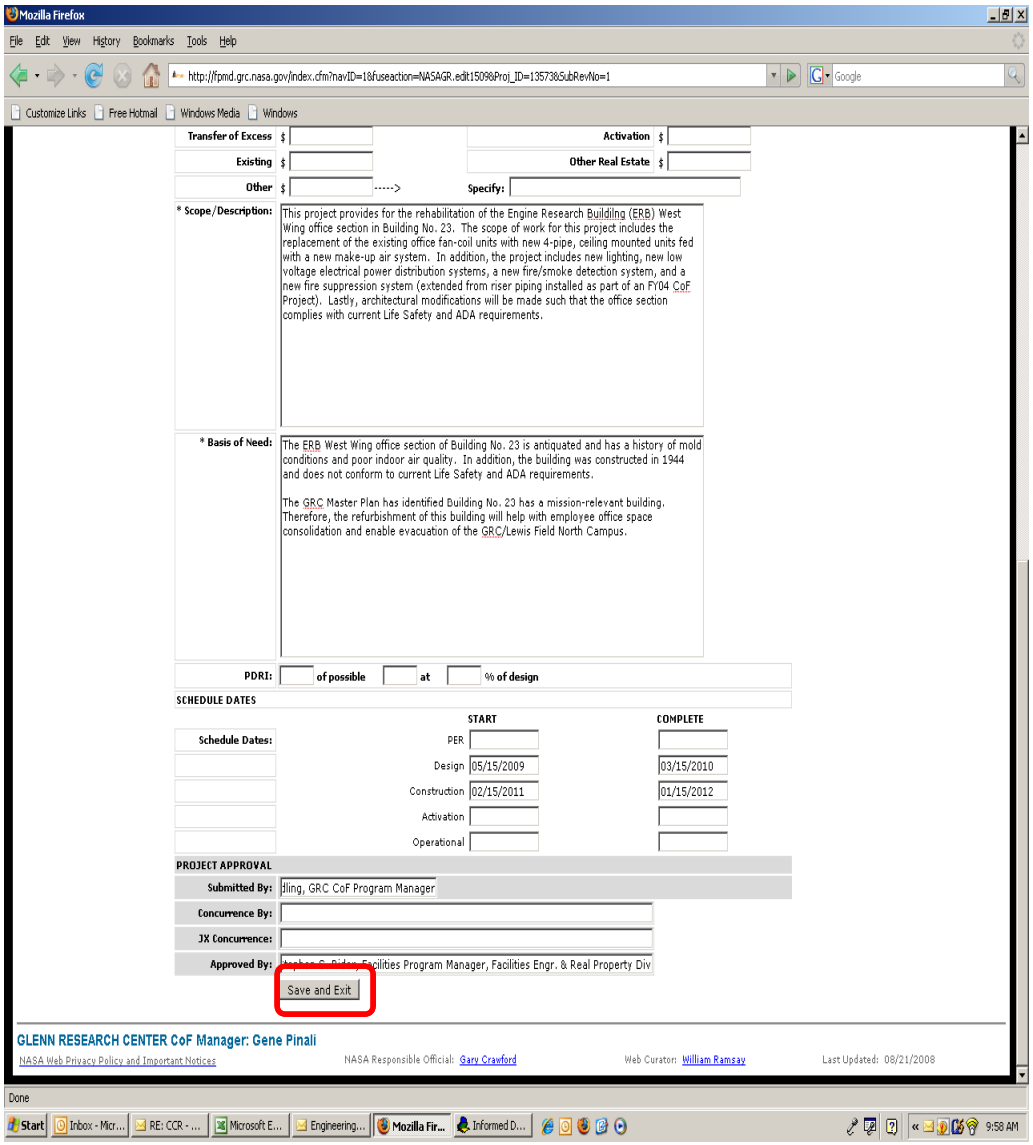
FPMD CoF Planning Module - 1509 Creation



This is page in the FPMD where you actually enter the information typically found on a 1509. The project title, FPMD Project ID number and today's date are auto-filled. You must type in the information in all the other text boxes.

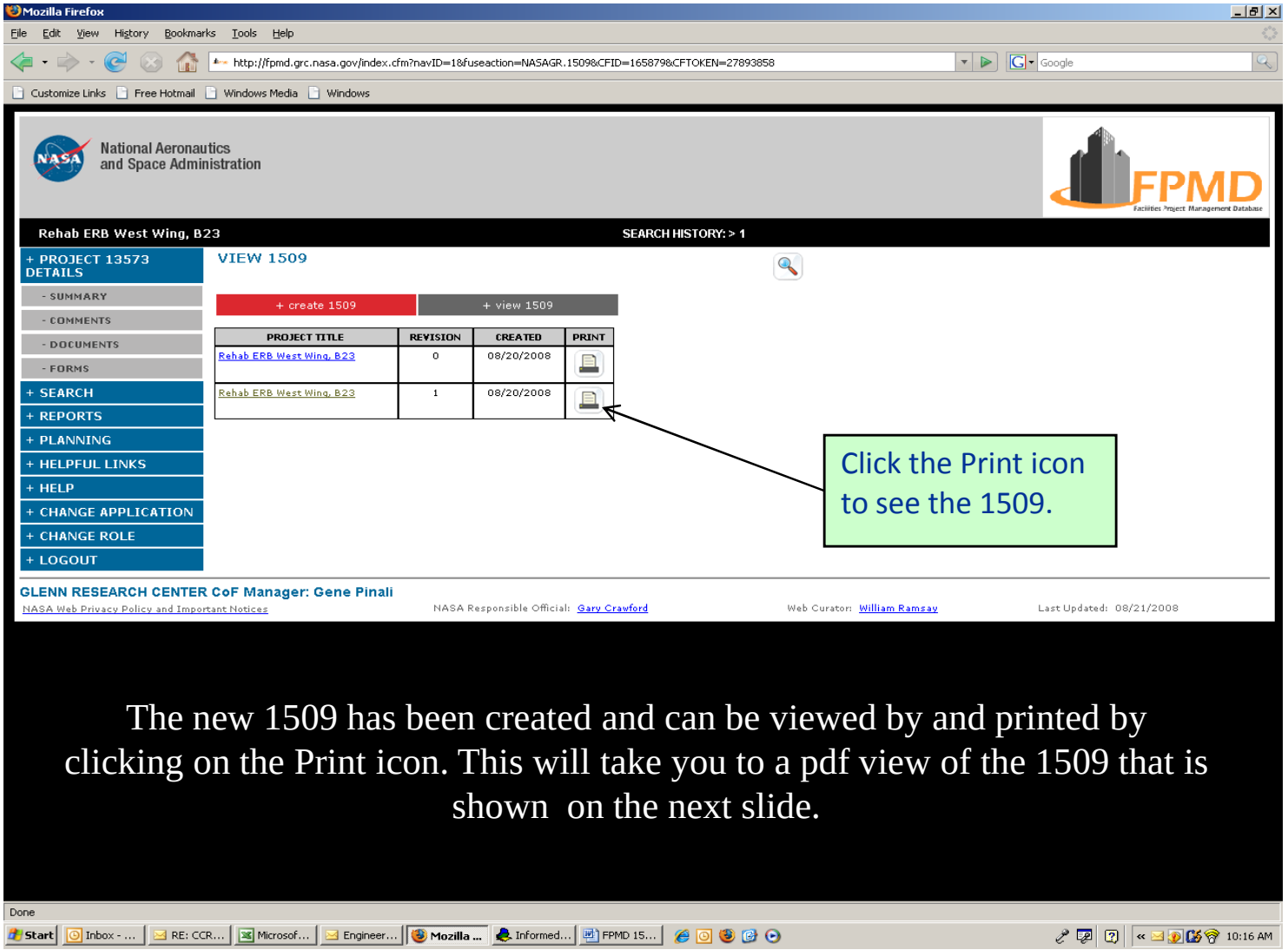
Note that for now there are text boxes to enter the names and titles of the individuals who are to sign the 1509 (Submitted By, Concurrence By, JX Concurrence and Approved By).
We anticipate the future capability to incorporate "electronic" signatures to the 1509 via the FPMD.

FPMD CoF Planning Module - 1509 Creation



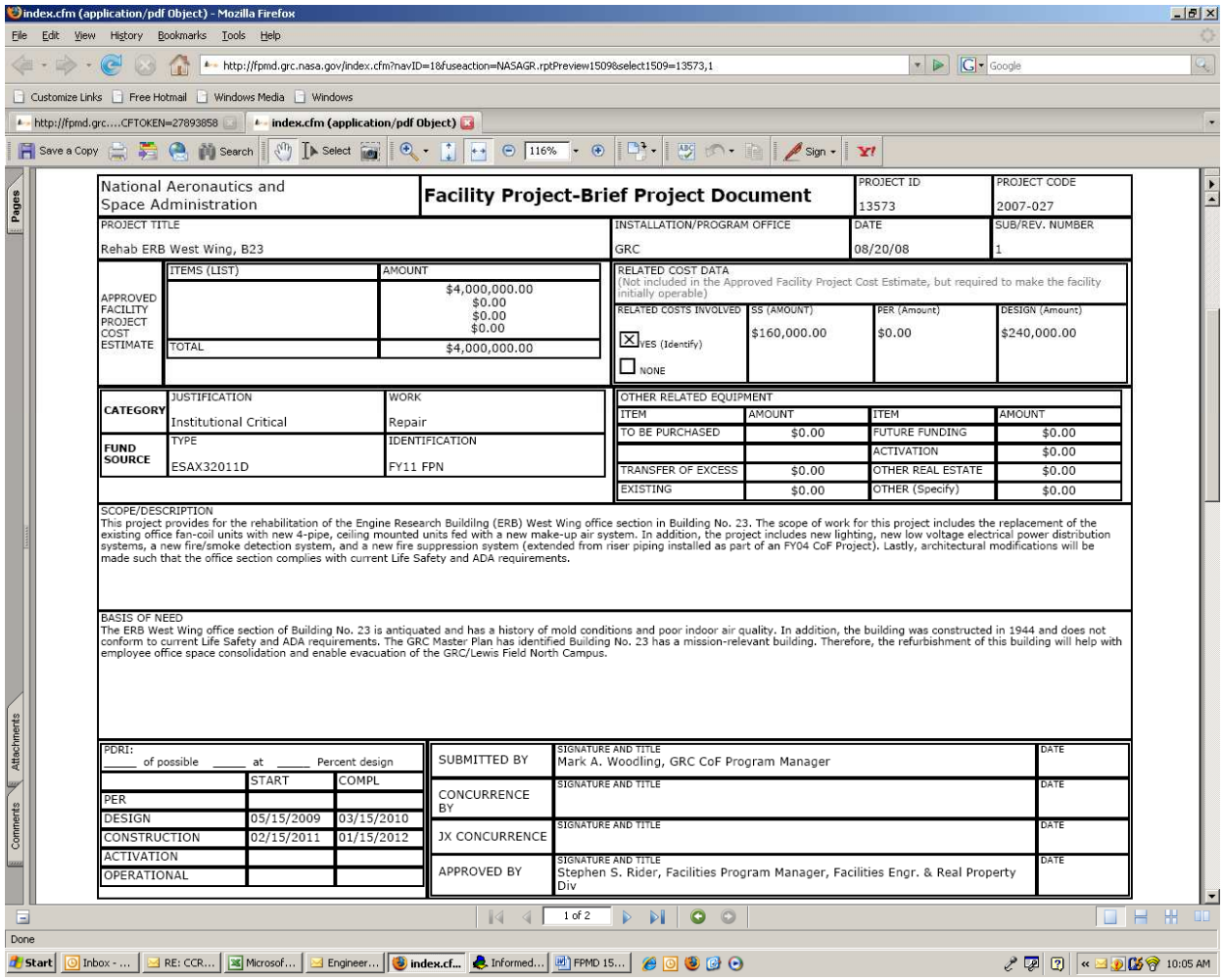
Click on “Preview” Type in the information in each text box as you typically would for a 1509. This could be a cut and paste from another document or typed in directly. In order to lock-in the typed information, you must click the “Save and Exit” button. Once you do this, a 1509 is created as shown on the next slide.

FPMD CoF Planning Module - 1509 Creation



The new 1509 has been created and can be viewed by and printed by clicking on the Print icon. This will take you to a pdf view of the 1509 that is shown on the next slide.

FPMD CoF Planning Module - 1509 Creation



index.cfm (application/pdf Object) - Mozilla Firefox

National Aeronautics and Space Administration

Facility Project-Brief Project Document

PROJECT ID	PROJECT CODE
13573	2007-027

PROJECT TITLE	INSTALLATION/PROGRAM OFFICE	DATE	SUB/REV. NUMBER
Rehab ERB West Wing, B23	GRC	08/20/08	1

APPROVED FACILITY PROJECT COST ESTIMATE

ITEMS (LIST)	AMOUNT
	$4,000,000.00
	$0.00
	$0.00
	$0.00
TOTAL	$4,000,000.00

RELATED COST DATA
(Not included in the Approved Facility Project Cost Estimate, but required to make the facility initially operable)

RELATED COSTS INVOLVED	SS (AMOUNT)	PER (Amount)	DESIGN (Amount)
☒ YES (Identify)	$160,000.00	$0.00	$240,000.00
☐ NONE			

CATEGORY	JUSTIFICATION: Institutional Critical	WORK: Repair	
FUND SOURCE	TYPE: ESAX32011D	IDENTIFICATION: FY11 FPN	

OTHER RELATED EQUIPMENT

ITEM	AMOUNT	ITEM	AMOUNT
TO BE PURCHASED	$0.00	FUTURE FUNDING	$0.00
		ACTIVATION	$0.00
TRANSFER OF EXCESS	$0.00	OTHER REAL ESTATE	$0.00
EXISTING	$0.00	OTHER (Specify)	$0.00

SCOPE/DESCRIPTION
This project provides for the rehabilitation of the Engine Research Buildilng (ERB) West Wing office section in Building No. 23. The scope of work for this project includes the replacement of the existing office fan-coil units with new 4-pipe, ceiling mounted units fed with a new make-up air system. In addition, the project includes new lighting, new low voltage electrical power distribution systems, a new fire/smoke detection system, and a new fire suppression system (extended from riser piping installed as part of an FY04 CoF Project). Lastly, architectural modifications will be made such that the office section complies with current Life Safety and ADA requirements.

BASIS OF NEED
The ERB West Wing office section of Building No. 23 is antiquated and has a history of mold conditions and poor indoor air quality. In addition, the building was constructed in 1944 and does not conform to current Life Safety and ADA requirements. The GRC Master Plan has identified Building No. 23 has a mission-relevant building. Therefore, the refurbishment of this building will help with employee office space consolidation and enable evacuation of the GRC/Lewis Field North Campus.

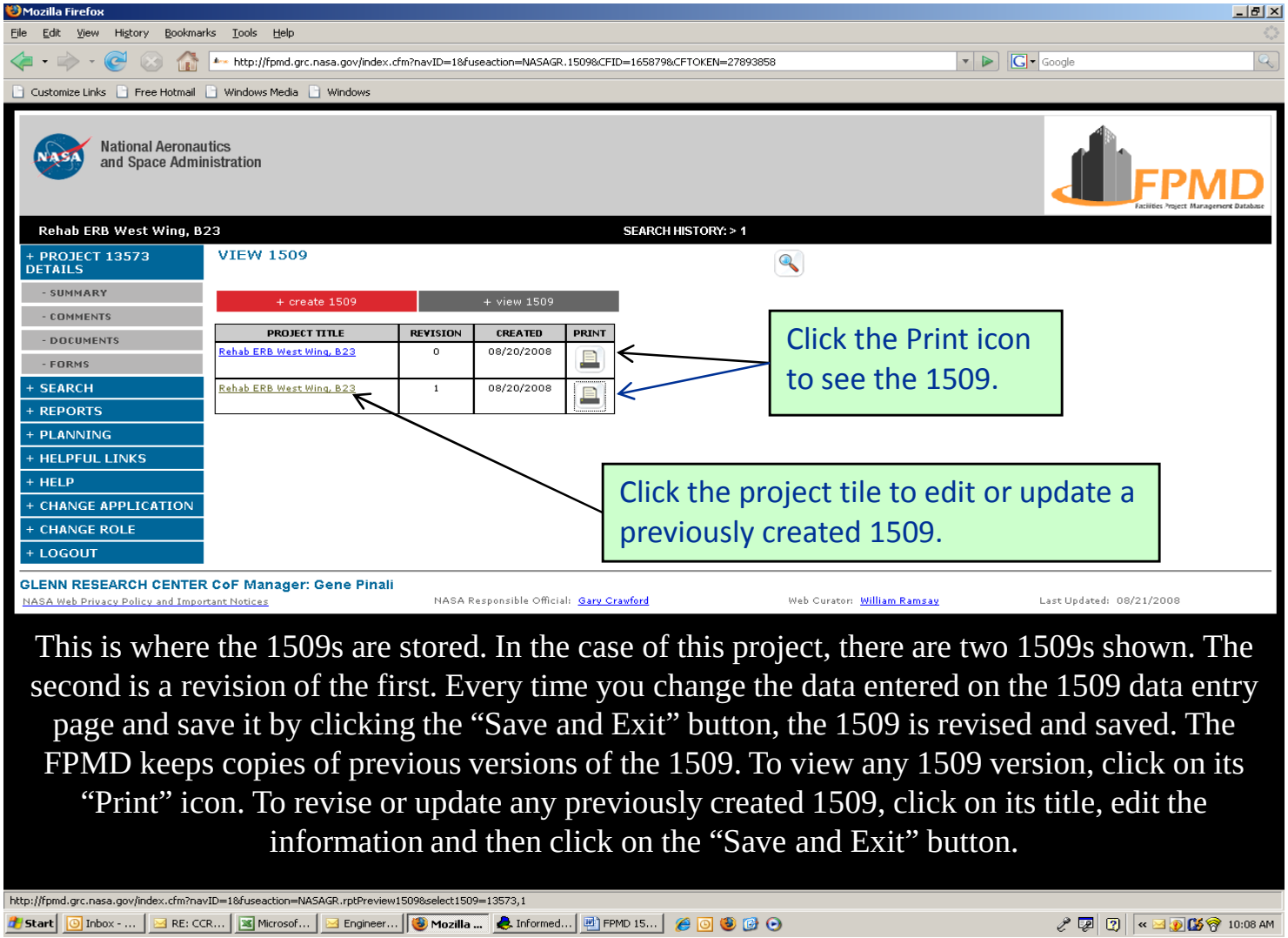
PDRI: ____ of possible ____ at ____ Percent design

	START	COMPL
PER		
DESIGN	05/15/2009	03/15/2010
CONSTRUCTION	02/15/2011	01/15/2012
ACTIVATION		
OPERATIONAL		

	SIGNATURE AND TITLE	DATE
SUBMITTED BY	Mark A. Woodling, GRC CoF Program Manager	
CONCURRENCE BY		
JX CONCURRENCE		
APPROVED BY	Stephen S. Rider, Facilities Program Manager, Facilities Engr. & Real Property Div	

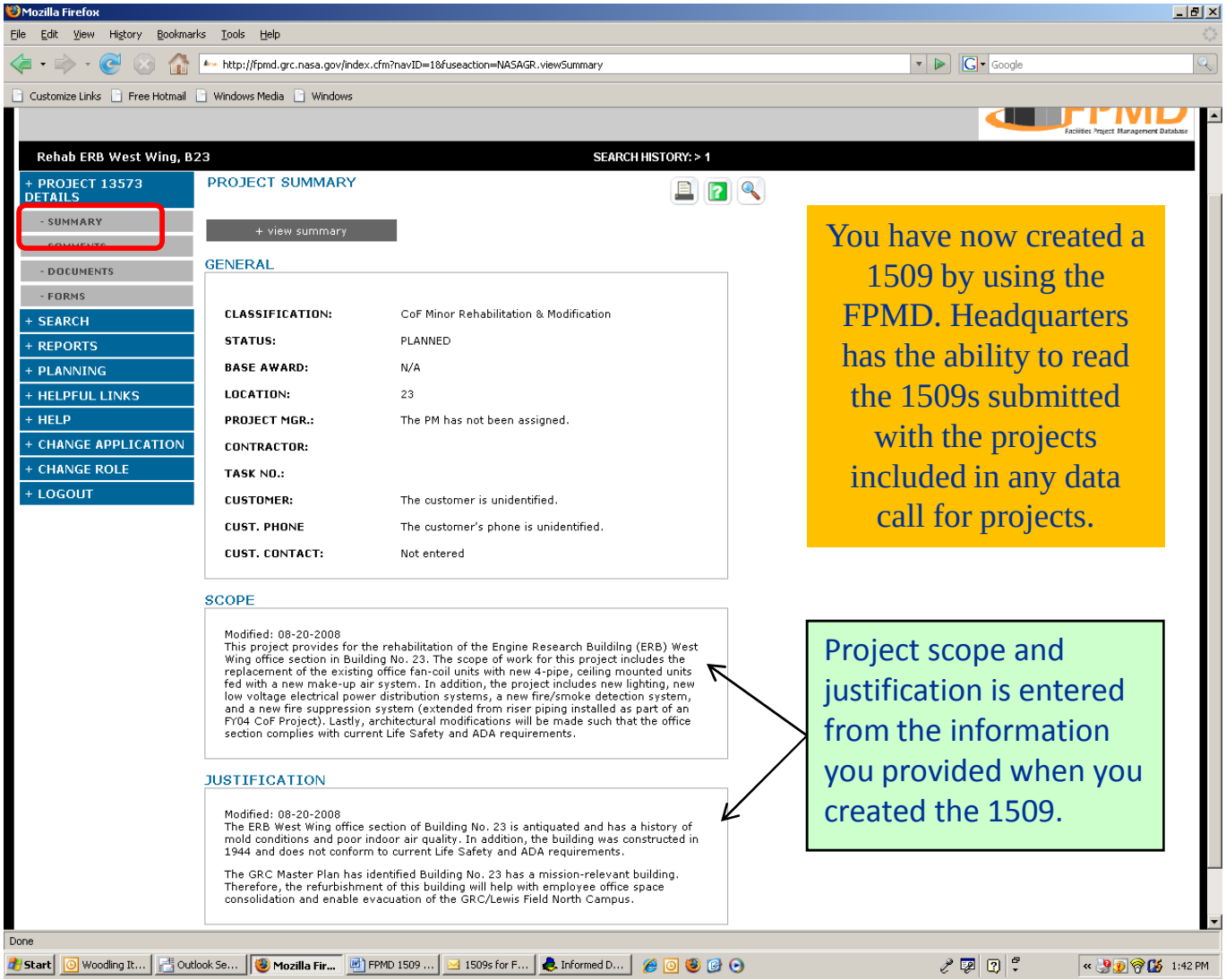
Click the web browser's "back" button, or close the tab to get out of the 1509 preview screen and back to the View 1509 page as shown on the next slide.

FPMD CoF Planning Module - 1509 Creation



This is where the 1509s are stored. In the case of this project, there are two 1509s shown. The second is a revision of the first. Every time you change the data entered on the 1509 data entry page and save it by clicking the “Save and Exit” button, the 1509 is revised and saved. The FPMD keeps copies of previous versions of the 1509. To view any 1509 version, click on its “Print” icon. To revise or update any previously created 1509, click on its title, edit the information and then click on the “Save and Exit” button.

FPMD CoF Planning Module - 1509 Creation



You have now created a 1509 by using the FPMD. Headquarters has the ability to read the 1509s submitted with the projects included in any data call for projects.

Project scope and justification is entered from the information you provided when you created the 1509.

Note that if you now go to the project "Summary" page by clicking the grey box on the upper left, the project scope and justification (basis of need on a 1509) has been automatically forwarded from the 1509 form and now appears on this page.

Facility Project Management Database

Steering Committee

FPMD Steering Committee

Mission Statement

- The mission of the Facilities Project Management Database (FPMD) Steering Committee is to define the strategic direction for the further development of the FPMD, and to ensure that the FPMD provides the maximum benefit in support of the Agency's Construction of Facilities Program.

Members

- The primary members include representatives from each NASA Center and related facilities. These representatives include Line Managers, Project Managers, Construction of Facilities Program Managers and Headquarters Program Managers.

FPMD Steering Committee

Current FPMD Steering Committee Membership:

- HDQTRS: Steve Rider, Wei Hu
- GRC: Gene Pinali, Gene Stygles, John Ritter
- JSC: Patricia Ford, Steve Farley
- DFRC: Michelle Hurd, Audrey Mauldin
- SSC: Susie (Barbara) Cour-Palais
- LaRC: Jim Charnock, Cheryl Allen
- KSC: Keith Britton, Chad Moeller
- WFF: Bob Reynolds, Kent Stover
- GSFC: Jacki Mattson
- JPL: Randy Wager, S. Welch
- ARC: Peter Chan, Suzie Campbell
- MSFC: Rhonda Pepper, David Jones

FPMD Steering Committee

Goals and Objectives

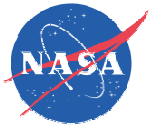
- In order to accomplish its mission, the Steering Committee shall:
  - Represent the interests of the FPMD user community by facilitating communication between the Steering Committee and user community;
  - Define and discuss potential enhancements or changes to functionality to the FPMD based on feedback from the user community;
  - Prioritize those enhancements or changes to functionality of the FPMD that are selected for implementation;
  - Ensures the FPMD follows and support the NASA Facilities Project Management process.

FPMD's Future

- As of today use of the FPMD has been mandated by Headquarters only for "Planned" project submissions.
- If further training of Center personnel is required, our new method will be to train individuals at GRC (at their expense) and then have them train others at their Center. We could also train personnel via Webex as an option.
- The FPMD is ready for all Centers to use. The rollout we committed to do has been completed. We will continue to work with Headquarters to integrate the FPMD with their "portal" data gathering system. We will also complete the current planned enhancements.

Point Releases 4.2 & 4.3 Content

- The current planned enhancements are described on the next two slides and are broken down into two point releases.
- Schedules for point release 4.3 cannot be determined until completion of specification gathering.
- The programmers will contact the designated champion for each of the proposed enhancements to gather the specifications (their thoughts and insights) for what exactly they were intending the FPMD to do.
- As a reminder, the following slides list the enhancements in each upcoming point release. The enhancement champions name is in **orange font.**



"Program Management" Point Release 4.2

- "Program Management" Release 4.2. Will include enhancements 1, 5, 7 & 11:
  - 1. Rollup Report by CoF Program Year: Report to list all CoF projects in a given program year and pull data from milestones, issues, etc.. (Ex: FY2009, Status & Phase, Percent Complete Per Phase, Issues and Obligations) 6 Center votes, Priority Ave. = 6 (M. Hurd, Dryden). In Test by June 22, 2009.
  - 5. Gannt Chart View - Need to breakdown Gannt Chart view timeline to show distinct project phases instead of one line that covers all phases. 3 Center votes, Priority Ave. = 3 (A. Mauldin, Dryden). In Test by June 8, 2009.
  - 7. Create a Center Planning Page: Create a page for CoF Program Manager or Center Master Planner to store potential future projects that are not currently planned for any specific fiscal Year. 3 Center votes, Priority Ave. = 5 This item is complete and in production.
  - 11. Historical "Issues" Report: This report would pull issues from all projects and document the closeout/resolution action. 3 Center votes, Priority Ave. = 8 (G. Stygles, Glenn). In Test by July 8, 2009.

"Project Management" Point Release 4.3

- "Project Management" Release 4.3. Will include enhancements 4, 8, 12 & 13:
  - 4. Auto Fill NASA Standard Forms: This enhancement would automatically infill portions of these forms (project title, etc) 4 Center votes, Priority Ave. = 7 (Steering Com – Pinali, Glenn)
  - 8. Email Document Storage: Provide a means to facilitate storage of emails to the Documents tab / Move entire email folder to documents. 3 Center votes, Priority Ave. = 6 (Steering Com – Pinali, Glenn)
  - 12. PM Report - add "Risks": Develop a new data screen for risk identification and tracking. 2 Center votes, Priority Ave. = 3 (J. Charnock, Langley, M. Hurd, Dryden)
  - 13. Center Customized Cost Worksheet: Provide the ability to customize the cost worksheet so that Centers can add their own specific project burden and other costs. 2 Center votes, Priority Ave. = 3 (G. Farley, Johnson)

FERP Requested Enhancements

- For both Minor and Discrete Projects:
  - Project budgets listed by Fiscal Year and by Project title
  - Project CCE's listed by Fiscal Year and by Project title
  - If there is a difference between project budget and project CCE, then note on how difference will be reconciled
  - Separate listings for Minor and Discrete projects.

- CoF Program:
  - Capture and provide some type of continuous designation for CoF projects that get inserted into a given fiscal year.
  - Capture and provide some type of continuous designation for CoF projects that are being deferred and/or descoped from a fiscal year

Committee Meeting Schedule

No Steering Committee meetings have taken place so far this year.

Future meetings will be scheduled as needed to demonstrate enhancements as they are put into production.

Back Up Slides

Facility Project Management Database

What is the cost?

- Current cost to host the application at Glenn for all Centers and Headquarters is $300k/year in FY07 and increasing linearly to $450k/year in FY11.